REMARKS

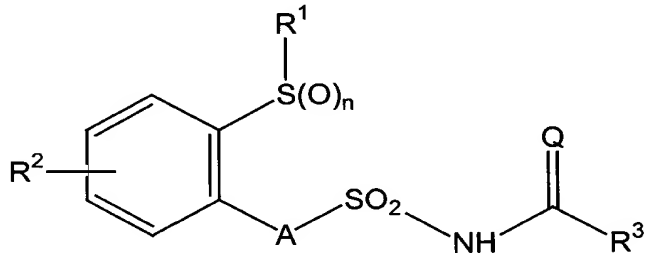
In the Office Action mailed July 3, 2002, Claims 1-6, 8, 9 and 13 are rejected under 35 U.S.C. §102(a), as being anticipated by U.S. Pat. No. 5,057,144 issued to Daum et al. Claims 1-5 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,057,144 issued to Daum et al.

I. Rejections under 35 U.S.C. §102(b)

Claims 1-6, 8, 9 and 13 are rejected under 35 U.S.C. §102(a), as being anticipated by U.S. Pat. No. 5,057,144 issued to Daum et al. The Examiner states at page 2, last paragraph to page 3, first two lines, that,

> Daum et al., teach sulphonylaminocarbonyl triazolinones that read in (sic) the instant claims when $\mathbf{R^1}$ is H, **A** represents a single bond, $\mathbf{R^2}$ is optionally substituted alkyl, alkylthio, $\mathbf{R^3}$ is triazolinone, **n** is 0 or 2, $\mathbf{R^4}$ is H, hydroxyl, amino, cyano, alkoxy, alkylamino, dialkylamino, C_3-C_6 cycloalkyl, $\mathbf{R^5}$ is H, hydroxyl, mercapto, amino, C, cyano, alkoxy, alkylamino, dialkylamino, C_1-C_4 alkyl and **Q** is O.
> See abstract and columns 9, 13 and 17.

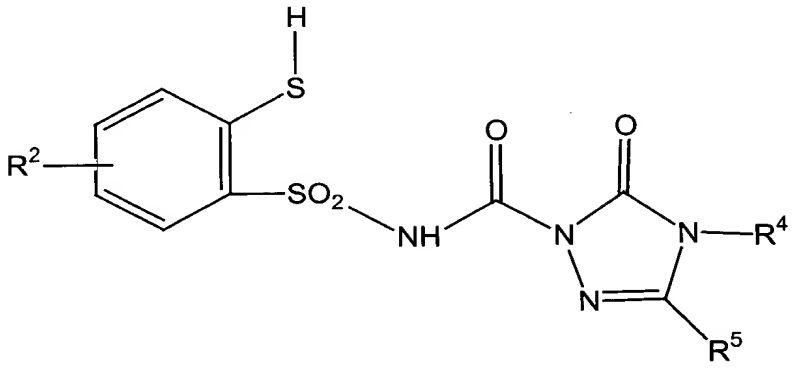
Applicants respectfully disagree with the Examiner, noting that the instant claims are directed to sulfonylamino(thio)carbonyls of the formula (I)



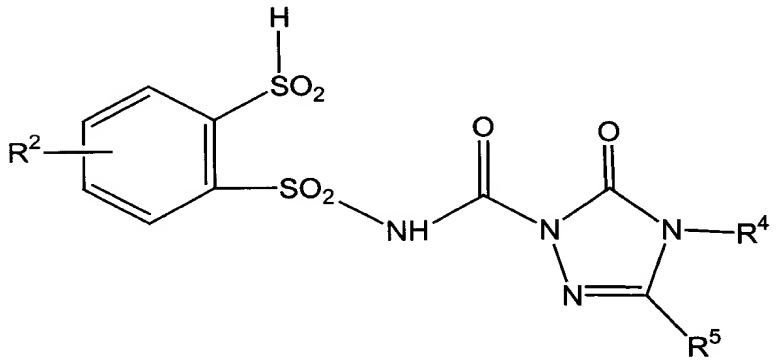
(I)

Using the substitution pattern suggested by the Examiner would result in the following compounds:

where n = 0;



and where n = 2;



Applicants fail to discern which of the compounds of columns 9, 13 and 17 would anticipate the instantly claimed compounds and respectfully request the Examiner identify with specificity those compounds which are believed to do so.

Failing that, Applicants respectfully request the Examiner reconsider and reverse the rejection of Claims 1-6, 8, 9 and 13 under 35 U.S.C. §102(a), as being anticipated by U.S. Pat. No. 5,057,144 issued to Daum et al.

II. Rejections under 35 U.S.C. §103(a)

Claims 1-5 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,057,144 issued to Daum et al. Applicants respectfully disagree with the Examiner's contention regarding Daum et al.

Applicants' arguments with respect to Daum et al., given above are equally applicable to the instant rejection. The compounds of Daum et al. neither anticipate nor render obvious the instantly claimed compounds.

Applicants submit herewith the declaration of one of the inventors, Dr. Mark Wilhelm Drewes. The data attached to Dr. Drewes' declaration clearly shows a surprising increase in herbicidal activity against selected weeds and in some instances also shows improvements in crop selectivity for compounds with the inventive substitution pattern of the phenyl moiety.

Applicants respectfully remind the Examiner of the Federal Circuit's admonition in *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998), that

> To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, **the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed**. (Emphasis added.)

Applicants respectfully contend that the Examiner has failed to do so in the instant Office Action.

As stated in MPEP §2143.01, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed Cir 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed Cir. 1992).

Clearly, there is no such teaching, suggestion or motivation shown in the

reference in this case to modify one of the myriad of compounds disclosed in Daum et al. to thereby arrive at the instantly claimed compounds. If the Examiner is relying on knowledge generally available to one of ordinary skill in the art, MPEP §2144.03 states that if applicants traverse such an assertion, the Examiner should cite a reference in support of his position. Applicants do traverse the Examiner's assertion in this case and hereby request such a reference. If the Examiner is relying on facts within his personal knowledge, applicants respectfully request and are calling for, pursuant to MPEP §2144.03 and 37 C.F.R. §1.104, the Examiner to support such facts by an Affidavit.

Therefore, Applicants contend that nothing in the teaching of Daum et al. would lead one of ordinary skill to the instantly claimed invention and respectfully request the Examiner reconsider and reverse the rejection of Claims **1-5** under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,057,144 issued to Daum et al.

Conclusion

Applicants have amended Claims 1-3 and contend that such amendment adds no new matter and finds support in the specification. Attached hereto, please find pages captioned "Version with markings to show changes made."

Accordingly, reconsideration and a Notice of Allowance are respectfully requested for Claims 1-6, 8, 9 and 13. If the Examiner is of the opinion that the instant application is in condition for other than allowance, the Examiner is requested to contact the Applicants' attorney at the telephone number given below so that additional changes to the claims may be discussed.

Respectfully submitted,

By _____
John E. Mrozinski, Jr.
Attorney for Applicants
Reg. No. 46,179

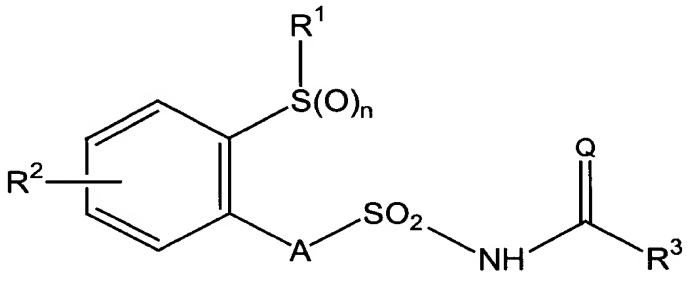
Bayer Corporation
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-8336
FACSIMILE PHONE NUMBER:
(412) 777-8363
s:\kgb\jem081res

Version with markings to show changes mad

In the claims:

The claims have been amended as follows:

1. (Twice Amended) A sulfonylamino(thio)carbonyl of the formula (I)



(I)

wherein

n represents the number 0, 1 or 2,

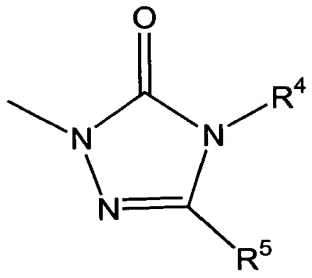
A represents a single bond, ~~oxygen or sulfur, or the grouping N-R, wherein R represents hydrogen, alkyl, alkenyl, alkynyl or cycloalkyl,~~

Q represents oxygen or sulfur,

R^1 represents hydrogen, formyl or represents optionally substituted alkyl, alkoxy, alkylamino, alkoxyamino, dialkylamino, N-alkoxy-N-alkyl-amino, alkylcarbonyl, alkoxycarbonyl, alkylsulfonyl, alkenyl, alkynyl, cycloalkyl, cycloalkylcarbonyl or cycloalkylsulfonyl,

R^2 represents cyano, halogen or represents optionally substituted alkyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, dialkylaminosulfonyl, alkenyl, alkynyl, alkenyloxy or alkynyloxy, and

R^3 represents an optionally substituted heterocyclyl of the formula below, wherein



R^4 represents hydrogen, hydroxyl, amino or cyano, or represents C_2-C_{10}-alkylideneamino, or represents optionally fluoro-, chloro-, bromo-, cyano -, C_1-C_4-alkoxy-, C_1-C_4-alkyl-carbonyl- or C_1-C_4-alkoxy-carbonyl-substituted C_1-C_6-alkyl, or represents optionally fluoro-, chloro- and/or bromo-substituted C_2-C_6-alkenyl or C_2-C_6- alkynyl, or represents optionally fluoro-, chloro-, bromo-, cyano-, C_1-C_4-alkoxy- or C_1-C_4-alkoxy-carbonyl-substituted C_1-C_6-alkoxy, C_1-C_6-alkylamino or C_1-C_6-alkyl-carbonylamino, or represents C_3-C_6-alkenyloxy, or represents di-(C_1-C_4-alkyl)-amino, or represents optionally fluoro-, chloro-, bromo-, cyano- and/or C_1-C_4-alkyl-substituted C_3-C_6-cycloalkyl, C_3-C_6-cycloalkylamino or C_3-C_6-cycloalkyl- C_1-C_4-alkyl, or represents optionally fluoro-, chloro-, bromo-, cyano-, nitro-, C_1-C_4-alkyl-, trifluoromethyl- and/or C_1-C_4-alkoxy-substituted phenyl or phenyl- C_1-C_4-alkyl,

R^5 represents hydrogen, hydroxyl, mercapto, amino, cyano, fluoro, chloro, bromo or iodo, or represents optionally fluoro-, chloro-, bromo-, cyano-, C_1-C_4-alkoxy-, C_1-C_4-alkyl-carbonyl- or C_1-C_4-alkoxy-carbonyl-substituted C_1-C_6-alkyl, or represents optionally fluoro-, chloro- and/or bromo-substituted C_2-C_6-alkenyl or C_2-C_6- alkynyl, or represents optionally fluoro-, chloro-, cyano-, C_1-C_4-alkoxy- or C_1-C_4-alkoxy-carbonyl-substituted C_1-C_6-alkoxy, C_1-C_6-alkylthio, C_1-C_6-alkylamino or C_1-C_6-

alkylcarbonylamino, or represents C_3-C_6-alkenyloxy, C_3-C_6- alkynyloxy, C_3-C_6-alkenylthio, C_3-C_6- alkynylthio, C_3-C_6-alkenylamino or C_3-C_6-alkynyllamino, or represents di-(C_1-C_4-alkyl)-amino, or represents optionally methyl- and/or ethyl-substituted aziridino, pyrrolidino, ~~piperidino or morpholino~~, or represents optionally fluoro-, chloro-, bromo-, cyano- and/or C_1-C_4-alkyl-substituted C_3-C_6-cycloalkyl, C_5-C_6-cycloalkenyl, C_3-C_6-cycloalkyloxy, C_3-C_6-cycloalkylthio, C_3-C_6-cycloalkylamino, C_3-C_6-cycloalkyl- C_1-C_4-alkyl, C_3-C_6-cycloalkyl- C_1-C_4-alkoxy, C_3-C_6-cycloalkyl- C_1-C_4-alkylthio or C_3-C_6-cycloalkyl- C_1-C_4-alkylamino, or represents optionally fluoro-, chloro-, bromo-, cyano-, nitro-, C_1-C_4-alkyl-, trifluoromethyl-, C_1-C_4-alkoxy- and/or C_1-C_4-alkoxy-carbonyl-substituted phenyl, phenyl- C_1-C_4-alkyl, phenoxy, phenyl- C_1-C_4-alkoxy, phenylthio, phenyl- C_1-C_4-alkylthio, phenylamino or phenyl-C_1-C_4-alkylamino, or

R^4 and R^5 together represent optionally branched alkanediyl having 3 to 11 carbon atoms,

and salts thereof.

2. (Twice Amended) The sulfonylamino(thio)carbonyl of claim 1, wherein

n represents the number 0, 1 or 2,

A represents a single bond, ~~oxygen, sulfur, or the grouping N-R, in which R represents hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6- alkynyl or C_3-C_6-cycloalkyl,~~

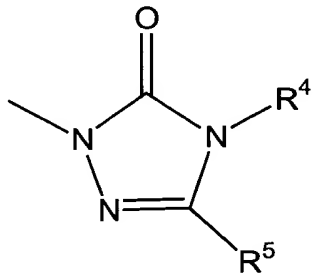
Q represents oxygen or sulfur,

R^1 represents hydrogen, formyl or represents optionally cyano-, fluoro-, chloro-, bromo-, phenyl- or C_1-C_4-alkoxy-substituted alkyl, alkoxy,

alkylamino, alkoxyamino, dialkylamino, N-alkoxy-N-alkyl-amino, alkylcarbonyl, alkoxycarbonyl, alkylsulfonyl, alkenyl or alkynyl having in each case up to 6 carbon atoms, or represents optionally cyano-, fluoro-, chloro-, bromo- or C_1-C_4-alkyl-substituted C_3-C_6-cycloalkyl, C_3-C_6-cycloalkyl-carbonyl or C_3-C_6-cycloalkyl-sulfonyl,

R^2 represents cyano, fluoro, chloro or bromo or represents optionally cyano-, fluoro-, chloro-, bromo- or C_1-C_4-alkoxy-substituted alkyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, dialkylaminosulfonyl, alkenyl, alkynyl, alkenyloxy or alkynyloxy having in each case up to 6 carbon atoms, and

R^3 represents an optionally substituted heterocyclyl of the formula below,



wherein

R^4 represents hydrogen, hydroxyl, amino or cyano, or represents C_2-C_{10}-alkylideneamino, or represents optionally fluoro-, chloro-, bromo-, cyano -, C_1-C_4-alkoxy-, C_1-C_4-alkyl-carbonyl- or C_1-C_4-alkoxy-carbonyl-substituted C_1-C_6-alkyl, or represents optionally fluoro-, chloro- and/or bromo-substituted C_2-C_6-alkenyl or C_2-C_6- alkynyl, or represents optionally fluoro-, chloro-, bromo-, cyano-, C_1-C_4-alkoxy- or C_1-C_4-alkoxy-carbonyl-substituted C_1-C_6-alkoxy, C_1-C_6-alkylamino or C_1-C_6-alkyl-carbonylamino, or represents C_3-C_6-alkenyloxy, or represents di-(C_1-C_4-alkyl)-amino, or represents optionally fluoro-, chloro-, bromo-, cyano- and/or C_1-C_4-alkyl-substituted C_3-C_6-cycloalkyl, C_3-C_6-

cycloalkylamino or C_3-C_6-cycloalkyl- C_1-C_4-alkyl, or represents optionally fluoro-, chloro-, bromo-, cyano-, nitro-, C_1-C_4-alkyl-, trifluoromethyl- and/or C_1-C_4-alkoxy-substituted phenyl or phenyl- C_1-C_4-alkyl,

R^5 represents hydrogen, hydroxyl, mercapto, amino, cyano, fluoro, chloro, bromo or iodo, or represents optionally fluoro-, chloro-, bromo-, cyano-, C_1-C_4-alkoxy-, C_1-C_4-alkyl-carbonyl- or C_1-C_4-alkoxy-carbonyl-substituted C1-C6-alkyl, or represents optionally fluoro-, chloro- and/or bromo-substituted C_2-C_6-alkenyl or C_2-C_6- alkynyl, or represents optionally fluoro-, chloro-, cyano-, C_1-C_4-alkoxy- or C_1-C_4-alkoxy-carbonyl-substituted C_1-C_6-alkoxy, C_1-C_6-alkylthio, C_1-C_6-alkylamino or C_1-C_6-alkylcarbonylamino, or represents C_3-C_6-alkenyloxy, C_3-C_6- alkynyloxy, C_3-C_6-alkenylthio, C_3-C_6- alkynylthio, C_3-C_6-alkenylamino or C_3-C_6-alkynyllamino, or represents di-(C_1-C_4-alkyl)-amino, or represents optionally methyl- and/or ethyl-substituted aziridino, pyrrolidino, ~~piperidino or morpholino~~, or represents optionally fluoro-, chloro-, bromo-, cyano- and/or C_1-C_4-alkyl-substituted C_3-C_6-cycloalkyl, C_5-C_6-cycloalkenyl, C_3-C_6-cycloalkyloxy, C_3-C_6-cycloalkylthio, C_3-C_6-cycloalkylamino, C_3-C_6-cycloalkyl- C_1-C_4-alkyl, C_3-C_6-cycloalkyl- C_1-C_4-alkoxy, C_3-C_6-cycloalkyl- C_1-C_4-alkylthio or C_3-C_6-cycloalkyl- C_1-C_4-alkylamino, or represents optionally fluoro-, chloro-, bromo-, cyano-, nitro-, C_1-C_4-alkyl-, trifluoromethyl-, C_1-C_4-alkoxy- and/or C_1-C_4-alkoxy-carbonyl-substituted phenyl, phenyl- C_1-C_4-alkyl, phenoxy, phenyl- C_1-C_4-alkoxy, phenylthio, phenyl- C_1-C_4-alkylthio, phenylamino or phenyl-C_1-C_4-alkylamino, or

R^4 and R^5 together represent optionally branched alkanediyl having 3 to 11 carbon atoms, and

the sodium, potassium, magnesium, calcium, ammonium, C_1-C_4-alkyl-ammonium, di-(C_1-C_4-alkyl)-ammonium, tri-(C_1-C_4-alkyl)-ammonium, tetra-(C_1-C_4-alkyl)-ammonium, tri-(C_1-C_4-alkyl)-sulfonium, C_5- or C_6-cycloalkyl-ammonium and di-(C_1-C_2-alkyl)-benzyl-ammonium salts thereof.

3. (Twice Amended) The sulfonylamino(thio)carbonyl of claim 1, wherein

n represents the number 0, 1 or 2,

A represents a single bond, ~~oxygen or the grouping N-R, in which R represents hydrogen, methyl, ethyl, n- or i-propyl, n-, i- or s-butyl, propenyl, butenyl, propynyl, butynyl, cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl,~~

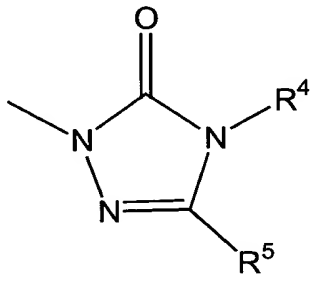
Q represents oxygen or sulfur,

R^1 represents hydrogen, formyl, or represents optionally fluoro-, chloro-, bromo-, methoxy- or ethoxy-substituted methyl, ethyl, n- or i-propyl, n-, i- or s-butyl, methoxy, ethoxy, n- or i-propoxy, n-, i-, s- or t-butoxy, methylamino, ethylamino, n- or i-propylamino, n-, i-, s- or t-butylamino, methoxyamino, ethoxyamino, n- or i-propoxyamino, n-, i-, s- or t-butoxyamino, dimethylamino, diethylamino, N-methoxy-N-methyl-amino, acetyl, propionyl, butyroyl, methoxycarbonyl, ethoxycarbonyl, n- or i-propoxycarbonyl, methylsulfonyl, ethylsulfonyl, n- or i-propylsulfonyl, n-, i-, s- or t-butylsulfonyl, propenyl, butenyl, propynyl or butynyl, or represents optionally fluoro-, chloro- or methyl-substituted cyclopropyl, cyclopropylcarbonyl or cyclopropylsulfonyl,

R^2 represents cyano, fluoro, chloro or bromo, or represents optionally fluoro-, chloro-, methoxy- or ethoxy-substituted methyl, ethyl, n- or i-propyl, n-, i- or s-butyl, methoxy, ethoxy, n- or i-propoxy, n-, i- or s-

butoxy, methylthio, ethylthio, n- or i-propylthio, n-, i-, s- or t-butylthio, methylsulfinyl, ethylsulfinyl, methylsulfonyl, ethylsulfonyl, dimethylaminosulfonyl or diethylaminosulfonyl, or represents propenyl, butenyl, propynyl, butynyl, propenyloxy, butenyloxy, propynyloxy or butynyloxy, and

R^3 represents an optionally substituted heterocyclyl of the formula below:



wherein

R^4 represents hydrogen, hydroxyl or amino, or represents C_3-C_8-alkylideneamino, or represents optionally fluoro-, chloro-, cyano-, methoxy- or ethoxy-substituted methyl, ethyl, n- or i-propyl, n-, i-, s- or t-butyl, or represents optionally fluoro-, chloro- or bromo-substituted propenyl, butenyl, propynyl or butynyl, or represents optionally fluoro-, chloro-, cyano-, methoxy- or ethoxy-substituted methoxy, ethoxy, n- or i-propoxy, n-, i-, s- or t-butoxy, methylamino, ethylamino, n- or i-propylamino, n-, i-, s- or t-butylamino, or represents propenyloxy or butenyloxy, or represents dimethylamino or diethylamino, or represents optionally fluoro-, chloro-, methyl- and/or ethyl-substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclohexy l, cyclopropylamino, cyclobutylamino, cyclopentylamino, cyclohexylamino, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl or cyclohexylmethyl, or represents optionally fluoro-, chloro-, methyl-, trifluoromethyl- and/or methoxy-substituted phenyl or benzyl,

R^5 represents hydrogen, hydroxyl, mercapto, amino, fluoro, chloro or bromo, or represents optionally fluoro-, chloro-, cyano-, methoxy- or ethoxy-substituted methyl, ethyl, n- or i-propyl, n-, i-, s- or t-butyl, or represents optionally fluoro-, chloro- or bromo-substituted ethenyl, propenyl, butenyl, propynyl or butynyl, or represents optionally fluoro-, chloro-, cyano-, methoxy- or ethoxy-substituted methoxy, ethoxy, n- or i-propoxy, n-, i-, s- or t-butoxy, methylthio, ethylthio, n- or i-propylthio, n-, i-, s- or t-butylthio, methylamino, ethylamino, n- or i-propylamino, n-, i-, s- or t-butylamino, or represents propenyloxy, butenyloxy, propynyloxy, butynyloxy, propenylthio, propadienylthio, butenylthio, propynylthio, butynylthio, propenylamino, butenylamino, propynylamino or butynyl amino, or represents dimethylamino, diethylamino or dipropylamino, or represents optionally fluoro-, chloro-, methyl- and/or ethyl-substituted cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclopentenyl, cyclohexenyl, cyclopropyloxy, cyclobutyloxy, cyclopentyloxy, cyclohexyloxy, cyclopropylthio, cyclobutylthio, cyclopentylthio, cyclohexylthio, cyclopropylamino, cyclobutylamino, cyclopentylamino, cyclohexylamino, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, cyclohexylmethyl, cyclopropylmethoxy, cyclobutylmethoxy, cyclopentylmethoxy, cyclohexylmethoxy, cyclopropylmethylthio, cyclobutylmethylthio, cyclopentylmethylthio, cyclohexylmethylthio, cyclopropylmethylamino, cyclobutylmethylamino, cyclopentylmethylamino or cyclohexylmethylamino, or represents optionally fluoro-, chloro-, methyl-, trifluoromethyl-, methoxy- and/or methoxycarbonylsubstituted phenyl, benzyl, phenoxy, benzyloxy, phenylthio, benzylthio, phenylamino or benzylamino, or

R^4 and R^5 together represent optionally branched alkanediyl having 3 to 11 carbon atoms.